

UTILITY NOTES:

- All materials shall be approved by the Department of Public Works before installation.
- City shall provide all water meters and set residential water meters. Contractor shall furnish and install all other materials, including meter boxes, meter yokes, and fire hydrants. Meter yokes shall be as follows, or approved equals:

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|--------------------|---|
| 5/8" meter yokes | Ford #VHC 71-9W-11-33 |
| 1" meter yokes | Ford #VIC 74-10W-11-44 |
| 1-1/2" meter yokes | Ford #VBB 76-12B-44-66 with bypass valve cocked forward |
| 2" meter yokes | Ford #VBB 77-12B-44-77 with bypass valve cocked forward |

- Meter boxes in non-travel areas shall be as follows:

| | |
|----------------------|--|
| 5/8" and 1" meters | Carson (formerly Brooks) #1220 Jumbo (MET-2) |
| 1-1/2" and 2" meters | Carson (formerly Brooks) #1730 (MET-5) |

5/8" and 1" meter boxes shall be installed according to City of Colonial Heights drawing MET-1, modified as follows: Front of box to be 3" ± behind back of curb.

1-1/2" and 2" meter boxes shall be installed according to City of Colonial Heights drawing MET-6, modified as follows: front of box to be 3" ± behind back of curb.

Meter box shall not be less than 24" tall and shall have ABS top with cast iron flip reader. Meters shall be centered beneath the box top flip reader.

- Install meter boxes out of paved areas unless otherwise approved. In the event the meter box must be installed in a paved area, the Contractor shall submit a sketch of proposed traffic bearing meter box for approval by the Department of Public Works.

- Water services from main to meter setter shall be as follows: Services to 5/8" or 1" meter setters shall be Type K soft copper and shall be installed 24" below the finished grade at the meter box and shall have flared connections. Services to 1-1/2" and 2" meter setters shall be threaded brass or Type K hard copper and shall be installed 24" below the finished grade at the meter box.

- No splices will be allowed from main to meter in City right of way or easements. Services to be connected with corporation stops. Approved epoxy or nylon coated iron body saddles with stainless steel bolts, nuts, and double straps required on all mains.

- Fire hydrants (FIR-4) shall be Kennedy K81-A, Mueller A-421, or approved equal and shall have 3-1/2" bury and be installed from 18" to 84" behind the curb, and 21" to 27" from top of curb to center of 4" steamer connection. Fire hydrants shall have Petersburg threads. Fire hydrant locations on City right of way shall be staked in the field by a Certified Land Surveyor as called for on the plans.

- The Contractor shall be responsible for all fire flow testing and marking or new hydrants in accordance with the most current NFPA standards. A copy of the Hydrant Flow Test Report shall be submitted to the Department of Public Works for approval. A reflective yellow band shall also be applied around the hydrant between the discharge and top cap.

- Flushing hydrant (blow off) shall be Kupferle 2" Mainguard or approved equal, installed in a Carson (formerly Brooks) #1220 Jumbo (ABS) or approved equal meter box according to the City of Colonial Heights drawing WAT-3.

- Double check assembly and vaults that serve private structures shall be owned and maintained by the property owner.

- Water mains shall be uniformly supported for their entire length. Where foundations are yielding, the Department of Public Works shall approve in advance the bedding according to the Pipe Bedding, Trench Backfill and Pavement Restoration detail CH-1.

- All sanitary sewer manholes to be precast concrete with shaped inverts, and connections for pipes must be "Kor-N-Seal," or approved equal. All connections to existing manholes shall be cored and must have "Kor-N-Seal," or approved equal seals.

- All proposed or existing sanitary sewer manholes within the development shall have an internal rubber manhole frame/chimney seal installed. A rubber seal extension shall be used to cover any additional height of chimney not covered by the seal. The rubber seal and extension shall be as manufactured by Cretex Specialty Products, or approved equal. Seals shall be installed after completion of paving.

- Sanitary sewer manhole castings in remote areas, as determined by the Department of Public Works, shall have a Vandal Proof Manhole Frame and Cover, or approved equal see detail MAN-12.

- All sanitary sewer manhole castings within the 100-year flood plain shall be watertight as per City of Colonial Heights MAN-12 Watertight Manhole Frame and Cover.

- Sanitary sewer laterals in street right of way areas or City easements to be 6" diameter. Laterals to be connected to new main with tee-wye in main. Connections to existing mains shall be made with Geneco or Ford CB-1, or approved equal, sewer saddles.

- Cleanouts shall be installed 1' inside City right of way and City easements on all sanitary sewer laterals. See City Sewer Cleanout detail SEW-11.

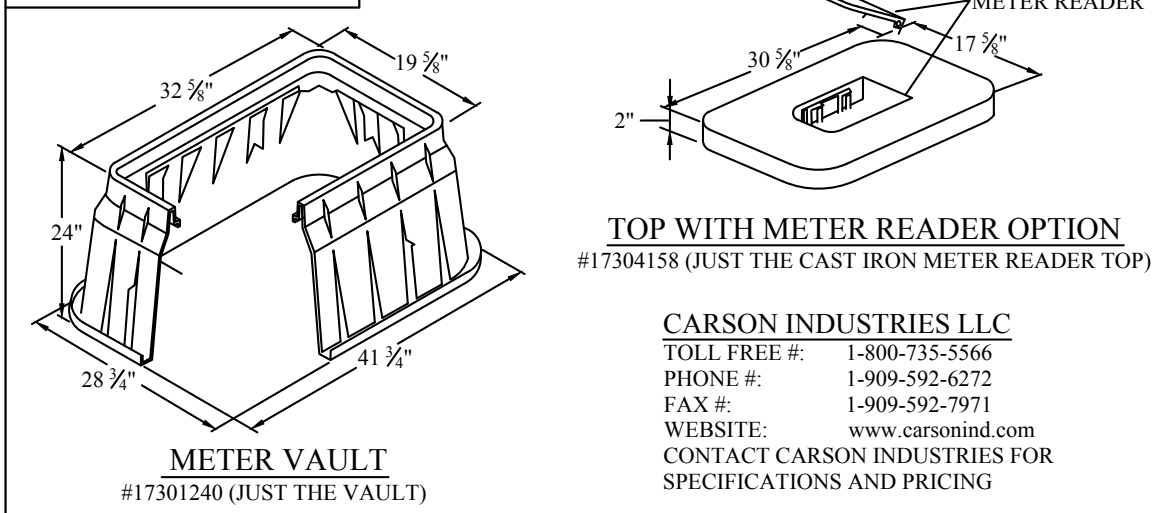
- All sanitary sewer main lines and services shall have bedding in accordance with the Pipe Bedding, Trench Backfill and Pavement Restoration detail CH-1.

- Any existing water and sewer services that are proposed for reuse shall be uncovered by the Contractor for inspection by the Department of Public Works. If the existing line is found to be unserviceable, or it does not meet current standards, it shall be replaced in its entirety.

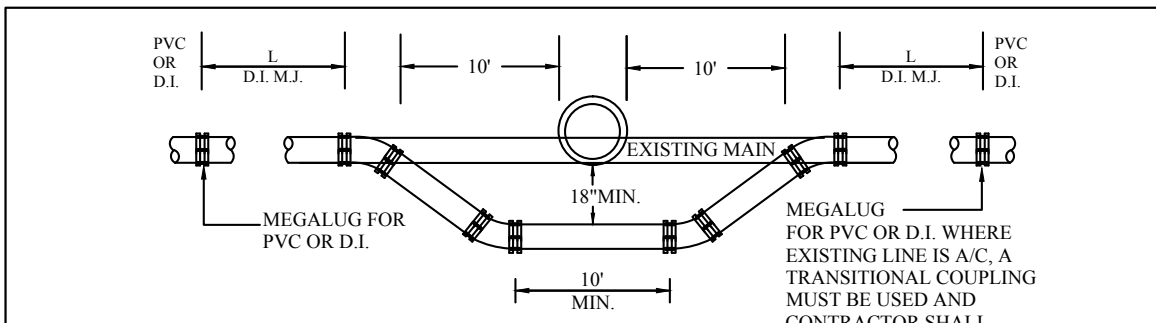
- Private utilities that connect to City utilities shall meet City standards.

- City inspections of private utilities that connect to City utilities shall be made. All manholes and required structures shall also be inspected to preclude infiltration and sediment from entering City lines.

1 1/2" OR 2" METER BOX

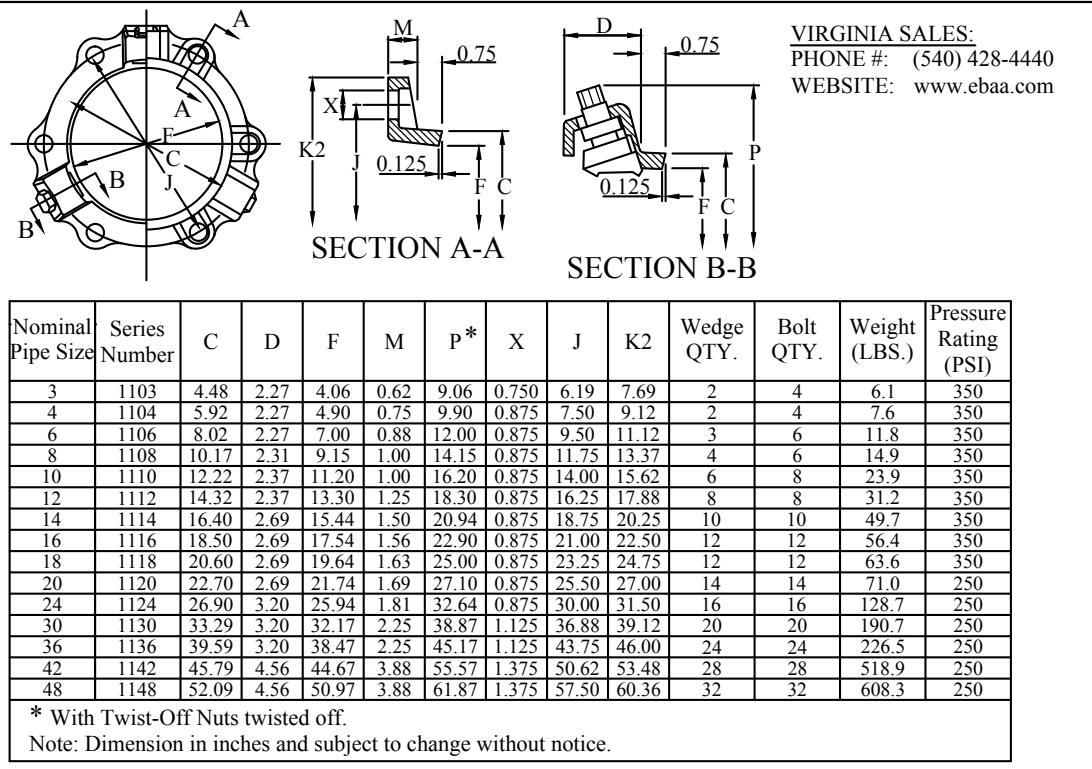


24" SUPER JUMBO XL METER VAULT
SPECIFICATION GRADE 17301241
PATTERNED AFTER CARSON INDUSTRIES, LLC. 1730 SUPER JUMBO XL

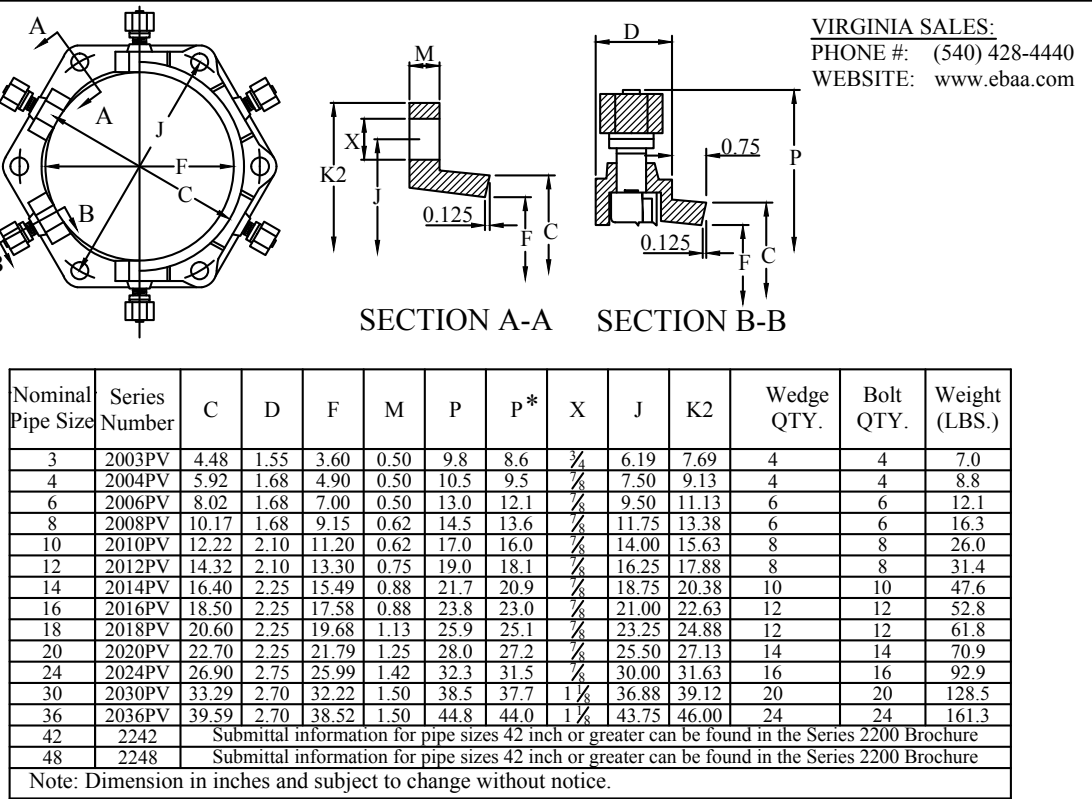


- LOWERED SECTION TO BE OF DUCTILE IRON MECHANICAL JOINT PIPE WITH RESTRAINED JOINTS AT ANY INCLUDED JOINTS. THE ENGINEER SHALL CALCULATE LENGTH OF RESTRAINED SECTION.
- THRUST BLOCKS FOR VERTICAL BENDS MAY BE DELETED WITH RESTRAINED JOINTS.
- UNDER VOIDS AND AROUND THE COUPLING OR THE ENDS OF THE AC PIPE TO SUPPORT ENDS WHILE INSTALLING THE SUPPORT COUPLINGS ONTO ENDS. 4x4 SALT TREATED TIMBER SUPPORT MUST BE LEFT AS A PERMANENT STABILIZATION.

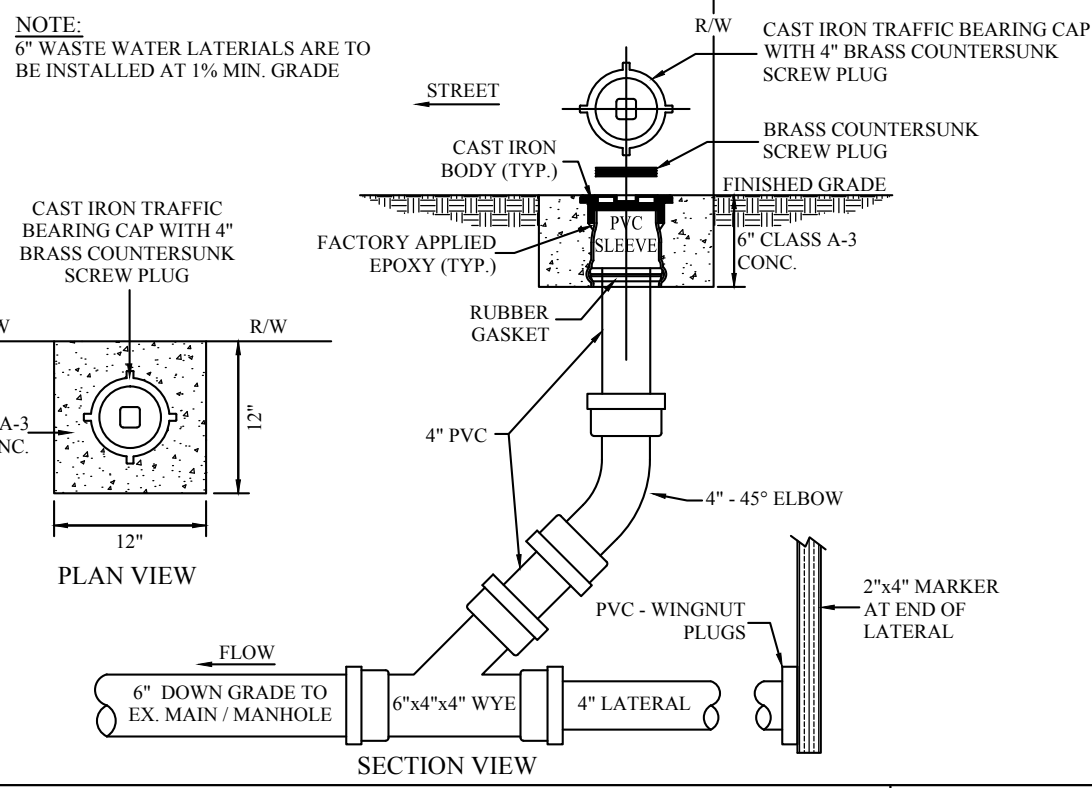
LOWERING WATER MAIN OR NEW INSTALLATION



MEGALUG SERIES 1100
MECHANICAL JOINT RESTRAINT FOR DUCTILE IRON PIPE
PATTERNED AFTER EBAA IRON INC. SERIES 1100 DETAIL

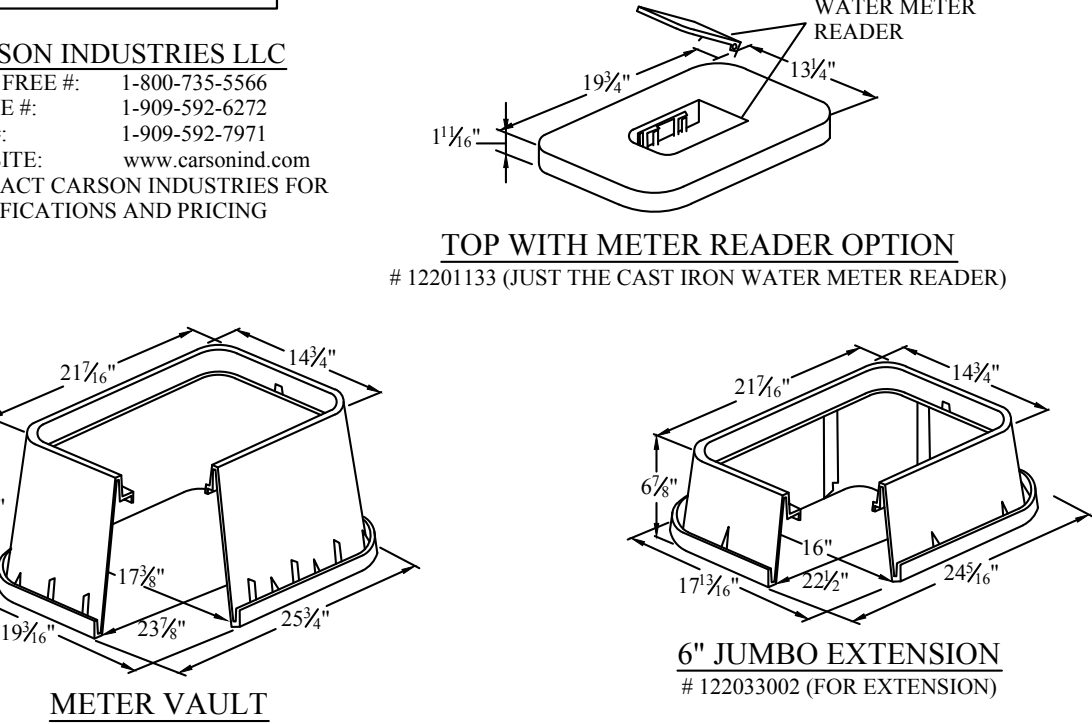


MEGALUG SERIES 2000PV
MECHANICAL JOINT RESTRAINT FOR PVC PIPE
PATTERNED AFTER EBAA IRON INC. SERIES 2000PV DETAIL



SANITARY SEWER CLEANOUT DETAIL
SEW-11

3/4" OR 1" METER BOX



12" JUMBO METER VAULT
SPECIFICATION GRADE 1220 JUMBO & JUMBO EXTENSION
PATTERNED AFTER CARSON INDUSTRIES, LLC. 1220 JUMBO & JUMBO EXTENSION

